REMARKS/ARGUMENTS

These remarks are made in response to the Final Office Action (Office Action) of May 16, 2005 (Office Action). As this response is timely filed within the three-month statutory period, no fee is believed due.

In the Office Action, the Examiner has rejected Claims 1, 2, 8-11 and 17 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,488,609 to Hluchyj, *et al.* (hereinafter Hluchyj). Claims 3 and 12 are rejected under U.S.C. § 103(a) as being unpatentable over Hluchyj in view of U.S. Patent No. 5,838,968 to Culbert (hereinafter Culbert). Claims 4-7 and 13-16 are rejected under U.S.C. § 103(a) as being unpatentable over Culbert in view of U.S. Patent Application Publication 2002/0040442 to Ishidera (hereinafter Ishidera).

Claims 1, 4, 5 8, 9, 10, , 13, 14, and 17 have each been amended to further emphasize certain aspects of Applicants' invention. The amendments are supported throughout the Specification. (See, e.g., Specification, p. 4, lines 1-10; p. 5, lines 4-17; and p. 8, lines 7-12.) No new matter has been added by virtue of the amendments herein.

Claim 1 is directed to a method for providing dynamic workload transitions in an application server for an e-business system. The method includes detecting an overload condition in the e-business system, and when such an overload is detected, causing a first reallocation of at least a portion of system resources allocated to a first set of workload tasks from the first set of workload tasks to a second set of workload tasks. (See, e.g., Specification, p. 8, lines 7-9; p. 10, line 14 – p. 11, line 6; FIG. 1.) Processing the second set of workload tasks requires less system resources than processing said first set of workload tasks. The method further includes performing a second reallocation of system resources to the first set of workload tasks if the overload condition subsequently abates and if the first set of workload tasks yet require processing.

Although dynamic workload transitions apply to an application server, it can not be overemphasized that the transitions occur in the context of an e-business system. As with e-business systems generally and as explicitly described in the Specification, the workloads – or tasks – are application-level tasks. (See, e.g., Specification, p. 8, lines 13-19; p. 9., line 5 – p. 10, line 13.) By definition, moreover, an e-business system involves transactions that occur across multiple systems. An business system, accordingly, can encompass other servers, databases, clients, applications, servlets and/or devices, for example. (See, e.g., Specification, p. 8, lines 7-12.)

As noted, Claim 1 was rejected as being obvious in view of Hluchyj. Hluchyj, however, is focused exclusively on the "management of call-level resource allocation on selected links" between one network communicant and another. (Col. 5, lines 28-31; abstract.) (Emphasis Supplied.) The resources allocated in Hluchyj are resources "on" "selected links" of a "connection-oriented communication network," the resources being allocated so as to "share the burden of accommodating new connections." (Abstract; Col. 5, line 32 – Col. 6, line 60.) (Emphasis Supplied.) The system parameters with which Hluchyj is concerned are those relating to "routing," "call setup," "traffic types, such as voice," "audio quality," and quality of service (QoS). (Col 3., lines 18-47.)

Hluchyj does not dynamically allocate/reallocate resources, but rather dynamically adjusts a rate that serves as the bases for handling traffic "on" links of a communications network. (Col. 5, line 25 – Col. 6, line 60.) In particular, Hluchyj manages call-level resources by blocking network calls when the "network is heavily loaded." (Col. 4, lines 27-39.) Thus, the resources with which Hluchyj is concerned are those pertaining to network links and switches.

Quality of service on the network, as well as the connection-oriented resources, is distinct from the application-level resources used for functions that are part of an e-business system, as recited in Claim 1. More particularly, Hluchyj does not address

detecting an overload condition in an e-business system. Nor does Hluchyj address causing one reallocation of at least a portion of the system resources from one set of workload tasks in the e-business system to a second set of workload tasks in response to a detected overload condition in the e-business system. Likewise, Hluchyj does not address causing yet another reallocation of system resources that returns the system resources to the original workload if the overload condition subsequently abates and if the original set of workload tasks yet require processing.

Thus, to assert that Hluchyj teaches or suggests Claim 1 merely because Hluchyj dynamically adjusts a *rate* related to network resources is to overlook very real distinctions between Hluchyj's call-level network handling and the dynamic resource reallocation in an e-business context. At page 9 of the Office Action, it is stated that "[A]pplicant [is] to note that Hluchyj discloses such teachings which [are] similar to the concept of resource allocation as claimed. Therefore, Hluchyj's teaching can be related to [A]pplicants' invention, [and] does not need to be modified." (Emphasis Supplied.) But Applicants respectfully maintain that Hluchyj must be modified. Absent significant modification, Hluchyj's call-level allocation of connection-oriented resources does not teach or suggest features recited in Claim 1.

With all deference, the argument advanced at page 9 of the Office Action suggests that because Hluchyj teaches the same concept or idea – resource allocation – as that underlying Applicants' invention, neither the context nor the actual way in which the allocation is achieved matters. Applicants respectfully submit that this is not the proper standard. Were the issue merely whether an application already teaches or suggests dynamic resource allocation, virtually all current and future computer-based inventions that rely on resource allocation would be rendered obvious since this is an "idea" that is implicit in many inventions across many fields. The courts have long warned that it is a

PAGE 11/19 * RCVD AT 7/18/2005 4:35:44 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/24 * DNIS:2738300 * CSID:5616596313 * DURATION (mm-ss):07-40

basic error to assess obviousness on the basis of the concept or "idea" underlying an invention:

> The invention cannot be tested on the basis of whether the 'idea' of using [a particular material] is patentable. Under the patent statute, Title 35 U.S.C., 'ideas' are not patentable; claimed structures and methods are. Reducing a claimed invention to an 'idea,' and then determining patentability of the 'idea' is error. [citation omitted.] Analysis properly begins with the claims, for they measure and define the invention. *Jones v. Hardy*, 727 F.2d 1524, 1527-28 (Fed. Cir. 1984)

Hluchyj, at most, suggests the *concept* – or idea – of resource allocation, but it does not teach or suggest *how* resources are dynamically allocated in the context of an e-commerce system. Applicants' invention does. Specifically, Applicants' invention teaches how to detect an overload in an e-commerce system and how to reallocate resources to handle competing workload requirements to mitigate the overload in an e-commerce system.

None of the features recited in Claim 1 are taught or suggested by Hluchyj. Accordingly, if Hluchyj is not modified, Hluchyj can not be read as teaching or suggesting each of the recited features. A § 103 reference can not be read as teaching or suggesting an invention without articulating how the reference is to be modified. Such a reading would make § 103 superfluous in light of § 102. Moreover, it would obviate the requirement, acknowledged at page 10 of the Office Action, that there must be some teaching, motivation, or suggestion that justifies the asserted modification.

In this instance, however, there can be no teaching, motivation, or suggestion for modifying Hluchyj to meet Applicants' invention since doing so "would require a

PAGE 12/19 * RCVD AT 7/18/2005 4:35:44 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/24 * DNIS:2738300 * CSID:5616596313 * DURATION (mm-ss):07-40

substantial reconstruction and redesign of the elements" by which Hluchyj operates. *In re Ratti*, 270 F.2d 810, 813 (CCPA 1959). Hluchyj's dynamically adjusted rate for assessing the burden on call-level resources of admitting a new call would have to be some how transformed into an application-level mechanism for detecting an overload condition in an e-business system. Hluchyj's blocking of network calls or creating new network links at the connection level would have to be somehow transformed into a mechanism for reallocating system resources from one set of e-business system workload tasks to another and then back again depending on an overload condition in the e-business system. It is simply too broad an intellectual leap to suggest that the mere *idea* of call-level resource allocation in Hluchyj's connection-oriented network is sufficient to suggest detecting an overload in an e-commerce system or reallocating application-level resources to mitigate the overload, as recited in Claim 1. Such a modification of Hluchyj would require the kind of substantial reconstruction and redesign of elements that courts have cautioned against.

More fundamentally, any notion that the prior art provides a teaching, motivation, or suggestion for modifying Hluchyj to meet Applicants' invention is negated by the fact that modifying Hluchyj to encompass Applicants' invention would change the principle of operation of Hluchyj. The call-level, connection oriented resources that Hluchyj manages exist apart from the application-level resources that provide the functioning an e-business system. By definition, an business system can operate across multiple systems and encompass multiple servers, databases, clients, and the like. (See, also, Specification, p. 8, lines 7-12.) Reallocating the application-level resources based on mitigating an overload condition in the e-business system revises entirely the object of resource allocation in Hluchyj. No longer are network resources at the call-level to be allocated to accommodate new calls as Hluchyj is expressly intended to do. Instead, orientation must be redirected to the resources at the application-level, and the resources must be allocated according to the different functions performed by the e-business system

independent of connection-based factors such as voice quality or link capacity. Modifying the call-level functions of Hluchyj to encompass the application-level functions of an e-commerce system alters the very principle of operation of Hluchyj. *See, e.g., In re Ratti, supra.*

Indeed, managing resources to mitigate an overload condition in an e-business system would render Hluchyj unsatisfactory for its intended purpose. As already noted, an e-business system encompasses multiple devices and system. Reallocating resources to prevent or mitigate an overload condition in the e-business system conflicts with allocating resources to accommodate multiple calls between different devices in a network. If a proposed modification would render the prior art device or process that is being modified unsatisfactory for its intended purpose, then there can be no suggestion or motivation for making the proposed modification. *See, e.g., In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984), *cited at* MPEP § 2143.01.

Applicants respectfully maintain, therefore, that the cited art fails to render Claim 1 obvious. Applicants further respectfully maintain that Claims 2 and 3, which each depend from Claim 1 and recite additional features, are thus likewise not rendered obvious by the prior art.

Claim 4 is directed to a method of providing dynamic workload transition in an application server for an e-business system. The method includes receiving a first work request in the e-business system and determining a workload of the first work request. The method further includes comparing the workload of the first work request to whatever system resources are available in order to determine if performing the workload of the first work request might cause an overload condition in the e-business system. If so, the method continues with a transitioning to a second lighter work request, which requires less system resources and thereby prevents the overload condition from occurring in the e-business system.

As noted above, Claim 4 was rejected on the basis of Culbert in view of Ishidera. Culbert is directed to a mechanism for managing resources of a "host system" system across multiple tasks. (Col. 5, lines 21-40.) The system resources and tasks described in Culbert are those executing on a single system defining a "multimedia processing system" that includes a media engine subsystem and multimedia input/output (I/O). When the media engine subsystem becomes resource constrained, Culbert responds by reducing the resources available for executing current tasks on the subsystem. (Col. 9, lines 15-19.)

Ishidera is directed to determining when power needs to be conserved in an operating environment (e.g., a notebook-sized computer). The determination is based on the operating status of a power source in the form of a battery. (Para. 0006-0008; 0032) In such an event, Ishidera causes a switch to a light-load processing unit. (Para. 0033.) Ishidera is cited at page 7 of the Office Action as teaching or suggesting the "concept of preventing [a] system overload condition by switching to a lighter load," a concept acknowledged to be lacking in Culbert.

Neither Culbert nor Ishidera discloses each of the elements recited in Claim 4. As recited in Claim 4, this embodiment of Applicants' invention is directed to providing dynamic transitions between workload tasks in an e-business system so as to mitigate an overload condition in an e-business system. As already noted, an e-business system application utilizes resources across multiple systems. (See Specification, p. 8, lines 7-9.) By contrast, the system resources and tasks in both Culbert and Ishidera are those executing on a processor in a single system.

What Culbert refers to as a system performance model is the performance of a single system, not the performance of an e-business system, which by definition, functions across multiple systems. Likewise, in Ishidera's operating environment requiring power saving based on the operating status of a battery, switching to a lighter

PAGE 15/19 * RCVD AT 7/18/2005 4:35:44 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/24 * DNIS:2738300 * CSID:5616596313 * DURATION (mm-ss):07-40

load for processing occurs in a single device on which a single system is operating. Applicants respectfully submit that at the time of the invention, in fact, switching between lighter and heavier workloads across multiple systems was not well known.

Applicants respectfully maintain therefore that Culbert in view of Ishidera fails to disclose each aspect recited and therefore fails to render Claim 4 obvious. Applicants further respectfully maintain that Claims 5-7 are also not rendered obvious since each depends from Claim 4 and recites additional elements.

Claim 8 is directed to a machine readable storage on which is stored a computer program having a plurality of code sections executable by a machine. The executed code causes the machine to receive a first work request, the receiving providing a dynamic workload transition in an application server for an e-business system. The executed code also causes the machine to determine a workload of the first work request and to compare the workload to available system resources in order to determine if its performance is capable of causing a system overload condition in the e-business system. If so, the code causes the machine to transition to a second lighter work request requiring less system resources, thereby preventing the system overload condition.

Claim 8 was rejected on the basis of Hluchyj. As already set forth above, however, Hluchyj is exclusively focused on handling call-level network links, not an application workload and most definitely not those handled in an e-business system, as recited in Claim 8. The detection of an overload "on" the links in a network has nothing to do with the workload executed in the e-business system. The network infrastructure that pertains to Hluchyj simply supplies the path from end user to a server. (See, e.g., Col. 5, lines 20-45.) Even if it is assumed for the sake of argument that performing network management is necessary, what Hluchyj describes does not teach or suggest application management in connection with an e-business system as recited in Claim 8.

More particularly, specifying a dynamic rate adjustment for network connections as with Hluchyj does not teach or suggest a method by which workloads are adjusted at the application layer in an e-business system. The dynamic rate adjustment of the network path in Hluchyj does not address the workload on a particular application server when a request for an application function in the e-business system is made at the server. (Compare Col. 4, lines 27-39.) The rerouting of connections through different network paths does not provide a method for adjusting the application level functions in the e-business system, which are performed only *after* the designated paths have been traversed. (See Col. 5, lines 1-18.) The determining of system workloads and detecting an overload condition in the e-business system are very different from monitoring network workloads and network infrastructure.

Claim 9 likewise pertains to a system for providing dynamic workload transition in an e-business system. The system includes an application server for receiving work requests and for processing workloads in the e-business system, the work requests identifying workloads. The system also includes a workload driver for handling workload management of the application server. Such handling includes diminishing the processing of a currently processed workload that causes an overload condition in the e-business system, and initiating the processing of a lighter workload. The system further includes a status driver for reporting system data to the workload driver so as to provide information regarding the existence of the overload condition.

Claim 9 was rejected under Hluchyj. As noted above, Hluchyj is focused on call-level connections in a network. (Col. 5, lines 25-31.) Hluchyj, however, does not perform any of the recited services that are requested in the e-business system. Hluchyj's connection links do not relate to the applications at the server that perform functions in the e-business system. Hluchyj provides for call routing in a network environment. (Col. 4, lines 27-39.) Hluchyj does not address handling workloads to avoid an overload

PAGE 17/19 * RCVD AT 7/18/2005 4:35:44 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/24 * DNIS:2738300 * CSID:5616596313 * DURATION (mm-ss):07-40

condition in an e-business system. A network node in Hluchyj monitors a link status on the network and adjusts connection rates. (Col. 4, lines 35-59) This, however, does not teach or suggest monitoring application-layer functions in the e-business system, as recited in Claim 9.

Claim 10 is directed to a machine-readable computer program that detects an e-business system overload and how to handle competing workloads to mitigate the overload as recited in Claim 1. Accordingly, the arguments presented above in connection with Claim 1 apply equally to Claim 10.

Applicants thus respectfully assert that the cited art fails to render Claims 8, 9, and 10 obvious. Applicants respectfully assert further that Claims 11 and 12, which depend from Claim 10 and recite additional features, are also not obvious in view of the cited art.

Claim 13 is directed to a machine readable storage on which is stored a computer program that has a plurality of code sections executable by a machine. The code causes the machine to perform steps similar to those recited in Claim 4, which was rejected on the basis of Culbert in view of Ishidera. The arguments made above in connection with Claim 4 apply equally with respect to Claim 13. Accordingly, Applicants respectfully assert that the cited art fails to render Claim 13 obvious. Applicants further respectfully assert that since Claims 14-16 depend from Claim 13 and add additional features, the claims likewise are not rendered obvious by the cited art.

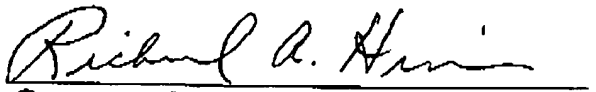
Finally, Claim 17 is directed to a machine readable storage on which is stored a computer program that has a plurality of code sections executable by a machine. At page 5 of the Office Action, Claim 17 was rejected on the same grounds stated in connection with Claims 1, 2, and 8. Accordingly, Applicants reassert here the arguments made above in connection with Claims 1, 2, and 8.

CONCLUSION

Applicants believe that this application is now in full condition for allowance, which action is respectfully requested. Applicants request that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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PAGE 19/19 * RCVD AT 7/18/2005 4:35:44 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/24 * DNIS:2738300 * CSID:5616596313 * DURATION (mm-ss):07-40